

REMARKS

Claim 22 is amended to incorporate the limitation of claim 40, now canceled, which depended from claim 22. Thus claim 22 as amended is of the same scope as that of claim 40 and this amendment does not raise new issue. Claim 22 as amended further supports the Applicants arguments provided below that a person of ordinary skill in this art would not have been motivated to incorporate the binder of Homma '713 in the fabric of Kishi.

Claim 43 is rejected under 35 USC 112, second paragraph. The Examiner states that the phrase ““through the fabric” implies that the binder is disposed through the thickness of the fabric in the z-axis direction. Fig. 2 shows *a binder disposed along the length of a fiber* traveling underneath or over the fibers of the opposite direction.” [Emphasis added.] This rejection is respectfully traversed and should be withdrawn because the claim recites *a binder disposed along the length of the fiber*, which is the Examiner’s own interpretation of Figure 2. The Applicants thank the Examiner for suggesting how to amend claim 43 because “through the fabric” in claim 43 was not intended to be limited to “disposed through the thickness of the fabric in the z-axis direction.”

Claims 22-28 and 40-44 were rejected as being obvious over Kishi in view of Homma. This rejection is respectfully traversed.

Foremost, the Examiner’s position that “there is no requirement that a motivation to make the modification be expressly articulated” in paragraph 4 of the Action is clearly incorrect in accordance with recent Federal Circuit cases such as *In re Lee*, 277 F.3d, 1338, 61 USPQ2d 1430 (Fed. Cir. 2002). *In re Lee* also overturns the proposition of *In re Bozek* on which the Examiner has relied upon.

The Applicants respectfully submit that the Examiner has failed to establish a *prima facie* case of obviousness because a person of ordinary skill in this art would not have been motivated to combine Kishi and Homma. One would arrive at the above conclusion based on the following analysis:

(1) Is there any motivation in Kishi to add a line-like binder to reduce twisting of Kishi's yarn? The answer is "no" as explained on page 4, lines 9-12, of the Amendment of November 5, 2002. Therefore, a person of ordinary skill in this art would not have been motivated to combine Homma with Kishi based on the reading of Kishi.

(2) Is there a motivation in Homma to incorporate a line-like binder in the fabric of Kishi, not just any fabric? The answer again is "no." A person of ordinary skill in this art would have recognized that Homma relates to a woven fabric made by a dry process and there would have been no motivation for "bonding by lines" as disclosed in column 6, line 54, of Homma in a cloth prepreg of Kishi because of the differences between Homma and Kishi.

The dry woven fabric of Homma is impregnated with a matrix resin. Column 5, lines 52-68, of Homma. In this context of the *improved impregnation* of the dry woven fabric, Homma discloses the following in column 6, lines 50-54:

In this method, since the impregnation ability of a matrix [resin] in the formation of a fiber reinforced composite material deteriorates if the reinforcing woven fabrics are bonded by surface bonding, bonding at points or bonding by lines is desirable.

This statement states that "bonding by lines is desirable" for improved impregnation. The Examiner cites the same statement from Homma and yet alleges that "Homma teaches a flattening operation involving a binder. Therefore, it would have been obvious to the skilled artisan to utilize *Homma's flattening operation*" See Action of August 7, 2002, page 3, paragraph 5, lines 9 and 10; emphasis added. Nowhere does Homma disclose a "flattening operation." Thus the Examiner's statement that Homma discloses a "flattening operation" is factually incorrect. Applicants respectfully submit that the Examiner's analysis of a *prima facie* case of obviousness is flawed because it is based on incorrect underlying facts. "Obviousness is a question of law with *underpinning factual findings*." *Mazzari v. Rogan*, 2003 U.S. App. LEXIS 4750 (Fed. Cir. 2003) citing *Tec Air, Inc. v. Denso Mfg. Mich. Inc.*, 192 F.3d 1353, 1359, 52 USPQ2d 1294, 1297-98 (Fed. Cir. 1999); emphasis added.

For the record, the Applicants clarify that it is this invention, not Homma, which teaches the use of line-like binder for *improved flatness*. The Applicants were the *first* to recognize the problems of the low cover factor of a woven cloth when it was subjected to a wet process as shown in Mr. Nishimura's Declaration of May 12, 2000. Furthermore, please note paragraph 6 of the Declaration of Mr. Nishimura of November 8, 2001, which states:

The 3K fabric of Kishi and its wet prepreg are shown in Photographs 1 and 2. Comparing the cover factors of the 3K fabric and its prepreg in Table 1 and Photographs 1 and 2, it is clear that the 3K fabric and its wet prepreg have almost the same "openings." Therefore, prior to this invention, a person of ordinary skill in this art did *not* even know or would have recognized that a problem of low cover factor in a wet prepreg could exist even though the woven fabric prior to prepregging has a high cover factor.

First, the Applicants respectfully submit that the above statement of Mr. Nishimura from his Declaration of November 8, 2001 should be relied upon. "An affidavit submitted to overcome a rejection is intended to be relied upon. ... [A]rguing that an affidavit submitted to persuade was defective as presenting only opinion, not fact, and that it should be discounted, qualifies only for a chutzpah award, not a reversal." *Refac International, Ltd. v. Lotus Development Corporation*, 81 F.3d 1576; 38 USPQ2d 1665 (Fed. Cir. 1996); citations omitted.

Second, the Applicants respectfully submit that the Examiner should consider Mr. Nishimura's statement in light of the well-established law that the *solution* to a problem, once known, is often obvious even when the *recognition* of the *problem* itself *or of the source* of the problem is not. *Eibel Process Co. v. Minnesota and Ontario Paper Co.*, 261 U.S. 45 (1923), established the rule that the discovery of the source of a problem may result in a patentable invention despite the fact that the solution would have been obvious once the source of the problem was discovered. The court in *In re Nomiya*, 184 USPQ 607, 612 (CCPA 1975), stated:

It should not be necessary for this court to point out that a patentable invention may lie in the discovery of the source of a problem even though the remedy may be obvious once the source of the problem is identified. This is part of the "subject matter as a

whole” which should always be considered in determining the obviousness of an invention under 35 U.S.C. 103.

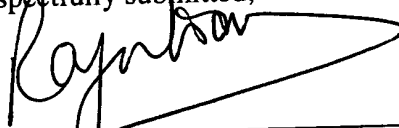
Besides, as shown in Mr. Nishimura’s Declaration of May 12, 2000, the Applicants obtained *unexpected results* of improved cover factor of a woven cloth prepreg incorporating a line-like binder as compared to a woven cloth prepreg without a line-like binder.

Even assuming that there would have been motivation to combine Homma and Kishi, which the Applicants respectfully deny, the Federal Circuit in *In re Dillon*, 919 F2d 688, 16 USPQ2d 1897, *cert. denied*, 500 U.S. 904 (1991), stated that the applicant could traverse the obviousness rejection by showing an unexpected advantage or superiority of the applicant’s claimed composition over a prior art composition. In this case, the Applicants have shown unexpected results over a prior art cloth fabric and the Examiner must consider the unexpected result. “A determination under 35 U.S.C. 103 should rest on all the evidence and should not be influenced by any earlier conclusion.” MPEP 2144.08 III citing case law from the Federal Circuit. In this case, the Examiner is kindly requested to reconsider the obviousness rejection on all the evidence and arguments set forth in the record.

Attached is a marked-up version of the changes made to the claims by the current amendment. The attached page is captioned “Version with markings to show changes made.”

In the event that the transmittal letter is separated from this document and the Patent & Trademark Office determines that an extension and/or other relief is required, applicant petitions for any required relief including extensions of time and authorizes the Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to **Deposit Account No. 03-1952**, referencing 360842003400.

Respectfully submitted,



Dated: May 15, 2003

By:

Raj S. Dave, Ph.D., J.D.
Registration No. 42,465

Morrison & Foerster LLP
1650 Tysons Boulevard
Suite 300
McLean, Virginia 22102
Telephone: (703) 760-7755
Facsimile: (703) 760-7777

VERSION WITH MARKINGS TO SHOW CHANGES MADE

In the Claims

Cancel claim 40 without prejudice or disclaimer.

22. (Seven Times Amended) A cloth prepreg made by a wet process comprising (i) a reinforcing fiber-containing woven fabric impregnated with a resin, (ii) a binder distributed in a line-like manner to maintain yarn flatness and (iii) a sizing agent on the reinforcing fiber, the fabric comprising a number of crossing points of warp and weft in a range of from 2,000 to 70,000/m², said warp and said weft being substantially free from twist, a width of 3 to 20 mm and a flatness as defined by a ratio of yarn width to yarn thickness of at least 20, and the prepreg having a cover factor of at least 90%, wherein the cloth fabric is a single woven fabric.

43. (Amended) The cloth prepreg of claim 22, wherein the binder is [through] disposed along the length of the fabric.